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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/851,983 | 05/10/2001 | Teruzo Toui | 0261-0008 | 4118 |

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EXAMINER

ZIMMER, MARC S

| ART UNIT | PAPER NUMBER |
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1712

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DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,983

Applicant(s)

TOUI ET AL.

Examiner

Marc S. Zimmer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 3,5 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

Priority

Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon an application filed in Japan on May 9, 2000. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.

Specification

The Specification is objected to because the compounds recited at the top of page 7 are said to be representative of the silicate compound (II) depicted at the top of page 6. However, lines 7-9 on page 6 stipulate that one of the variable R^1 must symbolize an organic group of the formula $R^2-(OCH_2CHR^3)_m$ wherein $m = 1$ to 4. Clearly, none of the tetraalkoxysilanes identified at the top of page 7 satisfy this structural requirement.

Claim Objections

The Examiner objects to the use of the phrase "obtainable by" in claims 3, 5, and 7. Insofar as it is evident that the Applicant intends to prepare the silyl group-derivatized acrylic polymers by precisely the synthetic approach recited therein, the word "obtainable" should be replaced with "obtained".

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, Applicant discloses the incorporation of a silicate compound (II) "besides a" hydrolyzable resin (III). Although it seems evident from the Specification that (III) is to be added *in addition to* (II), the claim appears to indicate that a silicate compound *other than* said hydrolyzable resin is being introduced. In essence, the precise meaning of the phrase "besides a" is held in question. Clarification is required. Any amendment of claim 1 in response to this rejection should also be duplicated in page 2 of the Specification as the same language is employed therein.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohnishi et al., U.S. Patent # 5,635,572 and Ohnishi et al., U.S. Patent # 5,855,960 which share precisely the same disclosure. Indeed, the latter was based on a divisional application of the former. Ohnishi discloses a top-coating composition that, in its most basic incarnation, is comprised of an organic coating composition to which is added an orthosilicate or its condensation products (column 1, lines 65-67 through column 2, lines 1-10). A description of the organic coating composition spanning columns 2-4 follows.

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According to column 2, lines 48-53, a hydroxyl group-functionalized resin selected from fluorocarbon polymers and acrylic polymers is most favored. Said hydroxyl group-functionalized resin is used in concert with a crosslinking agent such as a polyisocyanate or a melamine-formaldehyde product.

In column 5, lines 11-20, it is further contemplated that a polymer featuring a combination of silanol- and/or hydrolyzable silyl groups, hydroxyl groups, and epoxy substituents may be employed in addition to the aforementioned materials. Compounds having this structural makeup will react with the orthosilicate component to provide an aggregate material that exhibits good stain resistance. The hydrolyzable silyl, epoxy and hydroxyl groups will be made available by incorporating either (i) three separate resins each containing one of the required groups, (ii) a mixture of two polymers separately containing the epoxy groups and hydrolyzable silyl groups wherein at least one of the polymers will also bear hydroxyl groups, or (iii) a single polymer having all three types of substituents. These alternatives are presented in the reference as resins 1, 2, and 3 respectively. In all cases, the source of the required groups may include (meth)acrylic monomers containing said groups. A polymer synthesized from γ -methacryloxypropyltrimethoxysilane, glycidyl methacrylate, and 2-hydroxyethylmethacrylate is particularly disclosed under the heading of "EXAMPLE" at the bottom of column 13/top of page 14.

Ohnishi does not consider modifying the silicate component in the manner prescribed by the Applicant. Therefore, claims 2, 5, and 6 would be allowable over these references.

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Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizutani et al., U.S. Patent # 6,013,724. Mizutani discloses in column 7, lines 44-65 a fouling-resistant composition comprised of a condensate of tetramethoxysilane, a film-forming resin including any of the resins outlined in columns 16-20 in combination with a diisocyanate (column 20, lines 30-48), and an inorganic binder selected from one of the silicon-based compounds mentioned in column 23, lines 23-29. On page 29, they further provide for the addition of an alkoxysilyl group-functionalized vinyl polymer, among other materials, to the binder component. Although Mizutani makes casual mention of "modified" acrylate monomers as potential monomers in the preparation of the silane-functionalized polymer, there simply is nothing motivating one to choose hydroxyalkyl-substituted acrylic compounds from among the sizable variety of such compounds available. Mizutani is also silent as to the modification of the tetramethoxysilane condensate. Hence, claims 2, 3, 5, 6, and 7 would be allowable over this reference.

Allowable Subject Matter

Claims 2, 5, and 6 would be allowable *over the above references* if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. However, the Applicant is advised that the Examiner has discovered two additional references that have not been applied at this time for the reasons given *vide infra*.

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According to MPEP 2136, when examining a PG-PUB application, a U.S. patent granted on such a 35 U.S.C. 371 application has no reference date under 35 U.S.C. 102(e). As such, the Examiner cannot apply Tamai et al., U.S. Patent # 6,383,648 and Karuga et al., U.S. Patent # 6,271,293 despite their relevance to the instant invention. Nonetheless, the PCT documents on which each of these patents is based have been submitted for translation and may later be applied assuming that their disclosures match the subject matter provided in each of the above patents.

Karuga discloses several non-staining compositions (column 4, lines 24-43) including one containing components (I) and (II) of the instant invention (composition (I)) and one containing components (II) and (III). Further, Kanuga contemplates the same alkylene oxide-modified derivative of a silicate/silicate condensate that is disclosed in claim 2 (column 16, lines 60-67 through column 17, lines 1-43). Kanuga does not expressly teach a composition containing all of (I), (II), and (III) and/or (IV) in place of (II) and (III). Nonetheless, it has been held that it is *prima facie* obvious to combine two compositions, each of which is taught by prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. *In re Kerkhoven* 205 USPQ 1069. Accordingly, it is the Examiner's contention that the instant invention would be obvious in view of Kanuga's mention of two compositions that, together, have all of the same ingredients as the instant invention and, moreover, are used for the same application, i.e. to impart stain resistance to a surface.

Tamai discloses a composition containing the silyl group-containing acrylic resin disclosed in claim 3 in combination with a silicate compound and an isocyanate. In this

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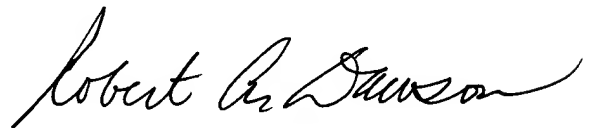
instance, the acrylic resin, by virtue of its possession of hydroxy groups, will be crosslinked with the isocyanate thus forming a film. In essence, the acrylic film satisfies both the requirements that a film-forming resin and a silyl group-containing resin be present.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 703-605-1176. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Dawson can be reached on 703-308-2340. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

August 5, 2002



Robert Dawson
Supervisory Patent Examiner
Technology Center 1700